

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (cancel)

2. (cancel)

3. (cancel)

4. (cancel)

5. (cancel)

6. (currently amended) The method of switching optical transmission lines according to claim 5-28 wherein said blocking steps are accomplished by gating of the optical signals.

7. (currently amended) The method of switching optical transmission lines according to claim 5-28 wherein said blocking is steps are accomplished by failing to perform electronic to optical conversion of the optical signals.

8. (currently amended) The method of switching optical transmission lines according to claim 5-28 wherein said blocking is steps are accomplished by processing of electrical signals representing the optical signals.

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9. (currently amended) The method of switching optical transmission lines according to claim 1-28 further comprising:

storing correspondence data on the first ~~transmitter and the first receiver as well as the second transmitter and the second receiver~~ terminal, a second terminal a third terminal and a fourth terminal for ascertaining original connections subsequent to said switching steps.

10. (cancel)

11. (cancel)

12. (cancel)

13. (cancel)

14. (cancel)

7
15. (currently amended) The system for switching optical transmission lines according to claim 14-29 wherein said first blocking unit and said second blocking unit line isolator further comprise[s] an optical gate.

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16. (currently amended) The system for switching optical transmission lines according to claim 14-29 wherein said first blocking unit and said second blocking unit line isolator further comprise[s] an electronic-to-optical converter.

9
17. (currently amended) The system for switching optical transmission lines according to claim 14-29 wherein said first blocking unit and said second blocking unit line isolator further comprise[s] an optical-to-electronic converter for converting an optical signal to

an electrical signal and a processing unit connected to said optical-to-electronic converter for processing the electrical signal.

¹⁰
18. (currently amended) The system for switching optical transmission lines according to claim 9 ~~20~~ further comprising:

a storage unit connected to said first switch and second switch for storing correspondence data on said first terminal, a second terminal a third terminal and a fourth terminal ~~transmitter and said first receiver as well as said second transmitter and said second receiver~~ for ascertaining original connections subsequent to switching.

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19. (cancel)

¹²
20. (currently amended) The optical protection switching apparatus according to claim 19 ~~20~~ wherein said switch is a four-in-four-out optical switch.

¹³
21. (currently amended) The optical protection switching apparatus according to claim 19 ~~30~~ wherein said switch is a set of two two-in-two-out optical switches.

¹⁴
22. (currently amended) The optical protection switching apparatus according to claim 19 ~~30~~ wherein said switch further comprises one one-in-two-out optical switch, two two-in-one-out switch and an optical splitter

¹⁵
23. (currently amended) The optical protection switching apparatus according to claim 19 ~~30~~ wherein said switch further comprises two two-in-two-out optical switches.

¹⁶
24. (currently amended) The optical protection switching apparatus according to claim 19 ~~30~~ wherein said line isolator is an optical gate.

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¹⁷
~~23-25~~ (currently amended) The optical protection switching apparatus according to claim
~~19-30~~ wherein said line isolator is an electronic-to-optical converter.

¹⁸
~~25-26~~ (currently amended) The optical protection switching apparatus according to claim
~~19-30~~ wherein said line isolator further comprises an optical-to-electronic converter for
 converting an optical signal to an electrical signal and a processing unit connected to said
 optical-to-electronic converter for processing the electrical signal.

¹⁹
~~26-27~~ (currently amended) The optical protection switching apparatus according to claim
~~19-30~~ further comprising:

a storage unit connected to said switch for storing correspondence data on the
 transmitters and the receivers subsequent to switching.

²⁰
~~28~~ (new) A method of switching optical transmission lines among terminals, a first
 terminal and a third terminal being initially communicating via a first optical
 transmission line, a second terminal and a fourth terminal being initially communicating
 via a second optical transmission line, a first node being located between the first
 terminal and the first optical transmission line as well as the second terminal and the
 second optical transmission line, a second node being located between the third terminal
 and the first optical transmission line as well as the fourth terminal and the second optical
 transmission line, comprising the steps of:

detecting a predetermined fault condition on the first optical transmission at the
 second node;

blocking an output to the fourth terminal from the second node;

transmitting a first switch request from the second node to the first node;

blocking an input from the second terminal to the first node in response to the first
 switch request;

switching the first terminal to connect to the second optical transmission ^{line} from the
 first optical ^{line} transmission after the input is blocked from the second terminal;

transmitting a second switch request from the first node to the second node; and
switching the third terminal to connect to the second optical transmission from the
first optical transmission in response to the second switch request.

29. (new) A system for switching optical transmission lines among terminals, a first
terminal and a second terminal being initially communicating via a first optical
transmission line, a third terminal and a fourth terminal being initially communicating via
a second optical transmission line, comprising:

a second node being located between the second terminal and the first optical
transmission line as well as the fourth terminal and the second optical transmission line,
further comprising:

a fault detection unit detecting a predetermined fault condition on the first
optical transmission;

a second blocking unit connected to the fourth terminal blocking an output
to the fourth terminal from the second node;

a second switch request unit for transmitting a first switch request from the
second node to the first node; and

a second switch connected to the second terminal, the fourth terminal, the
first optical transmission line and the second optical transmission line; and

a first node being located between the first terminal and the first optical
transmission line as well as the third terminal and the second optical transmission line,
further comprising:

a first blocking unit connected to the third terminal for blocking an input
from the third terminal to the first node in response to the first switch request;

a first switch connected to the first terminal, the third terminal, the first
optical transmission line and the second optical transmission line for switching
the first terminal to connect to the second optical transmission from the first
optical transmission after the input is blocked from the third terminal; and

a first switch request unit for transmitting a second switch request from the first node to the second node, wherein said second switch unit switching the second terminal to connect to the second optical transmission from the first optical transmission in response to the second switch request.

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20. (new) An optical protection switching apparatus, a first terminal being initially connected to another one of the optical protection switching apparatus via a first optical transmission line, a second terminal being initially connected to a second optical transmission line, comprising:

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a switch for switching connections of the first terminal and the second terminal with respect to the first optical transmission line and the second transmission line in response to a switch activation signal;

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a switch request unit connected to the first optical transmission line for transmitting to ^{said} another one of the optical protection switching apparatus a switch request message indicative of a switch between the first optical transmission line and the second optical transmission line in response to a switch request signal;

a blocking unit connected between the second terminal and said switch for blocking an optical signal between the second terminal and said switch in response to a blocking signal and generating a block completion signal upon completing the block;

a monitor unit connected to the first optical transmission line for detecting a predetermined fault condition in the first optical transmission line and generating a fault condition signal; and

a controller connected to said monitor unit, said switch request unit and said blocking unit for generating the blocking signal in response to the fault condition signal and the switch request signal in response to the block completion signal.

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31. (new) An optical protection switching apparatus according to claim 30¹¹ wherein said controller generates the switch activation signal upon receiving another one of the switch request message from ^{said} another one of the optical protection switching apparatus after said switch request unit has transmitted to ^{said} another one of the optical protection switching apparatus an original one of the switch request message.

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32. (new) An optical protection switching apparatus, a first terminal being initially connected to another one of the optical protection switching apparatus via a first optical transmission line, a second terminal being initially connected to a second optical transmission line, comprising:

a switch for switching connections of the first terminal and the second terminal with respect to the first optical transmission line and the second transmission line in response to a switch activation signal;

a switch request unit connected to the first optical transmission line for transmitting to ^{said} another one of the optical protection switching apparatus a switch request message indicative of a switch between the first optical transmission line and the second optical transmission line in response to a switch request signal;

a blocking unit connected between the second terminal and said switch for blocking an optical signal between the second terminal and said switch in response to a blocking signal and generating a block completion signal upon completing the block; and

a controller connected to said switch request unit and said blocking unit for generating the blocking signal upon receiving another one of the switch request message from ^{said} another one of the optical protection switching apparatus and for further generating the switch request signal in response to the block completion signal.